

REMARKS

Claims 1-68 are pending in the above-identified application; of these, claims 56-68 are withdrawn; claims 27-37 and 39-50 are allowed, claims 1-5, 7, 8, 10-26, 38, and 51-55 rejected, and claims 6 and 9 objected to. Applicants, having amended the application, respectfully request reconsideration.

Amendments to the Specification

Applicants have amended the specification to correct obvious grammatical errors. No new matter is added.

Rejections under 35 U.S.C. section 112

The examiner rejected claims 38 and 51 under section 112 as being in conflict with their respective parent claims. Applicants are grateful for the examiner's attention to detail, and have amended Claims 38 and 51 per the examiner's suggestions. The rejections of claims 38 and 51 should therefore be withdrawn.

Rejections under 35 U.S.C. section 102

The examiner rejected claims 11, 14-17, 20, and 24 under 35 U.S.C. 102(a) as anticipated by McClelland et al. (US 6,201,629). Applicants deal with each rejection in turn.

Claim 11

Claim 11, as amended, recites a MEMS optical apparatus that includes "a movable optical element having an outside edge joined to [a] support structure using a pair of serpentine hinges." Per the amendment, "the movable optical element is formed in a material layer having a layer thickness and the pair of serpentine hinges are formed in the layer." Applicants' specification supports this amendment, as best illustrated in connection with Figures 11(a) through 11(m) and the associated text.

McClelland et al. teach "[s]oft serpentine springs 49" that are formed in a different layer than the respective optical element. Claim 11 thus distinguishes McClelland et al.

Claims 14-17 and 24

Claims 14-17 and 24 depend from claim 11, and consequently

distinguish McClelland et al. for at least the same reasons claim 11 distinguishes.

Claim 20

Claim 20 is canceled, rendering moot the rejection of that claim.

Rejections under 35 U.S.C. 103

Claims 1-5, 7, 8, 10-23, 25, 26, and 52-55 stand rejected under section 103(a) as being unpatentable over Temesvary et al. (US 2002/0130561) in view of McClelland et al. The examiner afforded Temesvary et al. an effective filing date of March 18, 2001, the filing date of provisional application 60/277,135.

Applicants' specification claims priority to U.S. Patent Application Serial No. 60/241,269, filed October 17, 2000. A copy of that provisional application is included herewith. The present application is thus afforded an effective date prior to the Temesvary et al. provisional for the subject matter detailed in Applicants' provisional application. Applicants rely upon this earlier filing date to traverse the rejections based upon Temesvary et al., but have nevertheless amended some of the claims to more clearly recite the invention.

Allowable Subject Matter

Claims 6 and 9 are objected to as being dependent upon rejected base claims. Claims 6 and 9 are amended to include the language of their base claims, and should therefore be allowed.

The examiner noted that claims 38 and 51 would be allowed if amended to overcome the above-mentioned 112 rejections and to include the limitations of their respective base claims. Applicants have amended the claims to overcome the 112 rejections, and the respective base claims 37 and 51 are allowed. Applicants thus request allowance of claims 38 and 51.

Allowed Claims

The examiner allowed claims 27-37 and 39-50.

New Claims

Applicants added new claims 69-73, each of which relates to MEMS actuators with serpentine hinges with arms of varying length. These actuators are supported, for example, in Figures 6a, 7a, 7c, 8a, 9a, and 9b and in Applicants' provisional application at Figures 8, 10, 11, and 12. These configurations are compact (spec, para [0037]) and provide damping (*id. at* [0040]). The scope of claim 69-73 overlaps that of allowed claim 6.

CONCLUSION

In light of the foregoing remarks and amendments, the pending claims are in condition for allowance; accordingly, Applicants respectfully request a notice of allowance. If the examiner's next action is other than allowance of the pending claims, the Examiner is requested to call Applicants' attorney at (925) 621-2113.

Respectfully submitted,

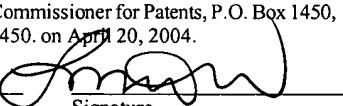


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